

IOWA BIRD LIFE

PUBLISHED QUARTERLY BY THE
IOWA ORNITHOLOGISTS' UNION

VOL. XXVII

SEPTEMBER, 1957

NO. 3



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The Iowa Ornithologists' Union was organized at Ames, Iowa, February 28, 1923, for the study and protection of native birds and to promote fraternal relations among Iowa bird students.

The central design of the Union's official seal is the Eastern Goldfinch, designated State Bird of Iowa in 1933.

Publications of the Union: Mimeographed letters, 1923-1928; "The Bulletin," 1929-1930; "Iowa Bird Life," beginning 1931.

SUBSCRIPTION RATE: \$2.00 a year. Single copies 50c each. Subscription to the magazine is included in all paid memberships, of which there are four classes, as follows: Contributing Member, \$10.00 a year; Supporting Member, \$5.00 a year; Regular Member, \$2.00 a year; Junior Member (under 16 years of age), \$1.00 a year.

EDITORIAL AND PUBLICATION OFFICE
WINTHROP, IOWA

T. C. STEPHENS - THE COMPLETE BIRD-WATCHER

ANECDOTES FROM OTHER DAYS. PART II*

By WILLIAM YOUNG WORTH

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(With photographs by the author)

The 1927 field ornithology tour, sponsored by Morningside College and headed by Dr. and Mrs. T. C. Stephens, was certainly a success in an academic way. This trip by seven students was taken through the states of Iowa, Minnesota, North Dakota, Montana, Wyoming and South Dakota and lasted ten weeks. However, the extra-curricular activities of the three male college students sometimes bordered on pure rascality in regard to Stubert Stephens, the son of the tour leaders. As I look back now, we three must have been the source of extreme annoyance to Dr. Stephens and his wife.

We had set up camp at Medora, North Dakota, in that rugged, yet beautiful area where Theodore Roosevelt had his ranch and regained his health. After a day in the field watching Black-headed Grosbeaks, Bullock's Orioles and the particularly lovely Lazuli Buntings, we returned to camp and a shower. The shower needs a bit of explaining, for in those days towns like Medora were not far from the frontier days of the above-mentioned Teddy, and the shower consisted of a water tank up on the roof of a building, with solar heat being used 100 per cent for heating the water. Stubert was the last to enter the shower hut, and when he came out it was easy to guess who had departed with his clothes.

Now Stubert was not only resourceful, but he also had a sense of humor. When he emerged from the shower he caused great laughter among those present, by appearing with a towel draped over his shoulders and the rest of his 16 years encased in a big barrel. I am afraid this tomfoolery annoyed Dr. Stephens more than we had planned, while poor Stubert was hustled off to a tent to find more suitable raiment.

Revenge is said to be sweet, but it can also be very lumpy. A few nights later, when we had pitched our tents on the very edge of the Yellowstone River in Montana and had tiredly crawled into our bedrolls, we found numerous large and small lumps under every bed. We spent a miserable night trying to curl around the biggest lumps and get a little sleep. We all knew, of course, the who and whyfore of our discomfort, but at that hour of the night we didn't feel inclined to take down the tent and set it up in a new spot. That would have been the only way we could have gotten away from those big and little rocks that Stubert had carefully shoved under the floor of the tent, in just the spots where they would do the most good to keep us sleeping lightly.

Doctor Stephens was a rather serene person as a rule. Only once in my long association with him did I see him agitated almost to despair. This anecdote fits in well at this time as it occurred only a few days after the above incident. To my mind it was the only really dangerous moment in the lives of any of the party of students. We had visited the Buffalo Bill monument in Cody, Wyoming, and as the morning waned we drove up the Shoshone

*This article brings to a conclusion a series of personal incidents in the life of Doctor Stephens, as related by his friend, William Youngworth, and begun in the June, 1954, issue of Iowa Bird Life, pp. 26-33. Due to the length of copy and the fact that the material was not entirely ornithological, the second section had not been published. Meanwhile Mr. Youngworth very generously offered to pay the cost of printing and to furnish the cuts. Under these circumstances we publish the remaining part of these biographical sketches. We are grateful to Mr. Youngworth for adding a very interesting chapter to our magazine and for further delineating the character of an unusual man, our own Doctor Stephens.—F. J. P.

Canyon road to Shoshone Dam. There we stopped and got out to look over the dam and the rugged scenery, both above and below the barrier.

The youngest lady student in the group wandered off by herself to the far end of the dam and had crawled through the iron fence on the downstream side of the dam. She was standing on the very edge of the concrete, looking down into the canyon, when Dr. Stephens, ever alert for his charges, saw her. Noting that I was nearest to her, he called to me: "For goodness sake, Youngworth, get Miss ——— off the dam!" If I had hurried I might have frightened her so I moved as fast as I dared and called to her to please step back from the edge. I don't think that girl ever realized the danger she was in. Anyone familiar with the west knows that mid-day winds usually sweep down canyons in gale force, and an extra strong puff of wind could send one down to his death.

In all our numerous bird-watching trips, I can remember only one instance in which Dr. Stephens really became annoyed with a total stranger. It with good reason, as I shall explain. We were on our 1928 tour of all the state parks in Iowa. Dr. Stephens had bothered in his meticulous way to get the names of all the park custodians, so that he could call them by name when we came to their parks.

In this particular park, a large one in eastern Iowa, we approached the custodian's home. Dr. Stephens greeted the custodian by name and then asked where we were allowed to camp and which was the best spot. This pompous, aristocratic individual actually looked down his nose at us and bellowed: "There are nearly thirteen hundred acres in this park and camp any damned place you want to." With that he turned and stomped into his quarters. Dr. Stephens was a disconcerted citizen of Iowa at that moment. He turned to me and said, "There is about the rudest person I have ever met in my life." He also said the State Conservation Commission was going to hear about it.

To this writer, many years later in retrospect, the decision is that this particular park custodian was a broken-down warhorse, who had probably failed in his life's work but had in some way gotten a job as custodian. The high type of park custodians we have in Iowa today is a far cry from this surly individual.



SHOSHONE DAM AND LAKE, NEAR CODY, WYOMING



MAQUOKETA RIVER, BACKBONE STATE PARK, IN 1926

The sequel to this little episode was not finished until the following morning. After breakfast we had been watching birds, and as we were about ready to break camp, a local fisherman came by and stopped to talk. He asked us why we had picked that particular spot to pitch our tent. Dr. Stephens explained our treatment at the park entrance, and that as it was getting late, we took the first level spot and made camp. The stranger pointed to a marker spiked to a nearby tree and said if we had had a cloudburst, our tent would have been under about 15 feet of water. This marker showed the high-water mark reached by the last big rain in the area.

One day in September, while meandering across the baking-hot floor of the South Dakota Badlands and leaving them by way of the old road from sun-beaten Scenic, we came into the shadows of the cooler Black Hills. We began to pass roadside stands that offered watermelons and fresh apple-cider for sale. Finally Dr. Stephens could hold out no longer and said he would buy some of both for our supper. I told him not to bother on my account, as neither appealed to me very much. So he bought a melon and a gallon of cider for himself and we started for a campsite beside a rushing mountain stream. For part of his supper Doctor had the melon and his cider.

We soon turned in, but just before I went to sleep I heard Poor-wills calling. I was glad I heard them for I thought I probably would not hear them again. I was very tired and expected to sleep. Little did I know that I was to hear Poor-wills most of the night and into the dawn. Almost every hour my tent-sharer clambered from his sleeping bag and was on his way to a nearby rest-room. Of course every trip awakened me and I got to know the call of the little Poor-will quite well.

Came the dawn and my weary partner arose. He took the remaining watermelon and threw it into a garbage can, dumped out the rest of cider, and said, "I am off that stuff for good!" That morning, as I remember, he had his favorite traveling breakfast of a big bowl of cold milk and a stack of white bread "heels."

Who hasn't been caught by a friend when doing something silly, or maybe just different and getting a sheepish grin for a reply? In the following



DR. STEPHENS PHOTOGRAPHING IN THE SOUTH DAKOTA BADLANDS

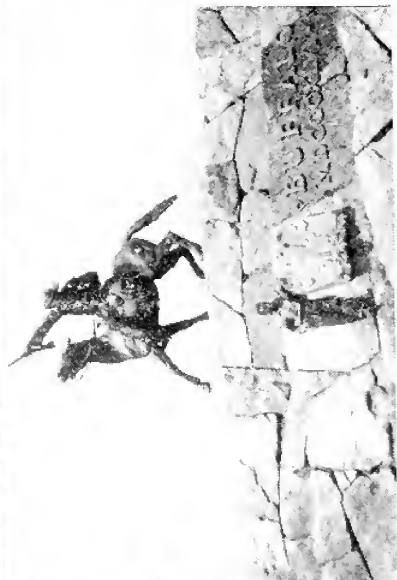
inconsequential incident this is illustrated. While driving along a country road, a large, shaggy, farm dog ran out and began to bark at the moving car. His bark was like a howl. Soon I heard answering howls from inside the car. I looked sharply at Dr. Stephens. He gave me a sheepish grin and explained that when he got out this way he always liked to howl at the farm dogs. What could I say, for I myself have howled back at the coyotes in the highlands of Wyoming?

One short chapter in my associations with Dr. Stephens, coincident with our bird-watching, almost had a serious ending. During the early 1930's, living conditions were day-to-day affairs and subversive-inspired mob hysteria caused people to overrun grocery stores and usurp the supplies or do other acts of aggression. A so-called (but misnamed) farmers' strike was on and road blocks were up. Birding weather was fine one day and Dr. Stephens was available, so I decided to go on a trip regardless of road blocks and mobs of misguided people who were watching the approaches to the city.

We left Sioux City by the east highway and soon came to a barrier of tree trunks and timbers. We were stopped by a threatening group of young men. I noticed that a few of them looked very little like farmers. They told us in vile language not to try to bring anything back with us in the way of farm produce. I tried to explain that we were on a trip to look for birds and were not interested in bringing back milk or eggs. They looked at one another and laughed uncouthly about our honest explanation. Then with further threatening warnings, they moved a timber and let us through.

I noticed that Dr. Stephens was a bit nonplussed by all this rough language. He wondered if we shouldn't turn back, but I was stubborn and decided that nobody would turn me back. We went on, had a fine day, and enjoyed our lunch at Brown's Lake. As the day waned I started for home by way of a dirt road I knew came into the city. I thought perhaps I could get by the agitators.

All too soon I rounded a corner and there was a barricade of tree trunks. We came to a quick stop as a dozen or more ugly young men, many in their teens, swarmed over the car. They were swearing, shouting and demanding that I get out and open the trunk of the car. I tried to explain through the partly open window that we had been on a bird trip and nothing of food



Upper left: North Rim of South Dakota Badlands. Upper right: Heart of the Badlands. Lower left: Emergency raiment (Stubert Stephens). Lower right: Youngworth standing beside Buffalo Bill monument, Cody, Wyoming.

or produce was in the car. This wild mob with blood in their eyes, who had beaten and bruised many drivers in past days, thought they had another victim.

I handed the leader the key to the trunk. He refused it and ordered me to get out and unlock it. I wouldn't do it and he tried to pull open the car door, but I had locked it. He told me to get out or they would break the lock. I refused and one man took an iron bar and broke open the trunk, which was found to be empty. They then appeared to be angrier than if they had found a case of eggs. In breaking open the trunk, they had broken off the handle and lock. One of them threw it in the partly open window and threatened me if I ever tried to get into town by this road again. Then amid a general session of curses and abuse, they reluctantly moved a log so that we could drive through. With more curses and threats they bid us on our way.

Doctor Stephens was visibly shaken by this wild, unruly scene of mob violence. He did not get over it and talked about it the rest of the way into the city. I explained to him that I would not have had a chance with that mob if I had gotten out of the car. I felt we were lucky to get out without having the car tipped over and wrecked. I think Dr. Stephens got an insight into the mad human being driven by mob psychology that afternoon—an activity far removed from the halls of Morningside College.

Often the truth of many of these mob scenes comes out years later. As recently revealed in a local newspaper story, the woman leader of this farmers' strike at Sioux City admitted that most of the men on these barricade set-ups were young men recruited from distant cities and not local farmers at all.

On one occasion we were on a trip to visit Miss Althea Sherman of National, Iowa. We drove over to McGregor to look at the beautiful scenery from the heights and incidentally to search for a few birds. We also found a McGregor character.

Most towns which have something to show to the public have an oldster or two, who will with very little encouragement explain the wonders of the area. Some of these men really know their local history; others just pose as great authorities. We met one of the latter as we got out of the car at Pike's Peak. Now this is the Iowa Pike's Peak and was named by the explorer Pike before he ever saw the more famous mountain in Colorado also named after him.

This local historian, a tall, gaunt fellow of many years, dressed in a black suit and sporting a string tie, took us in tow at once and began to explain about the various colored sands and other scenic features. However, every time we asked him a direct question about some bird or tree, he would usually dodge the question and talk about something else. Doctor and I were just about getting to the place where we would as soon part company with our guide on yet friendly terms, when he said they had many "ravens" in the area.

To bird-watchers in Iowa, the word Raven is like a jolt of electricity. The bird is extinct locally in our area and we came to attention at once. We both said, "Can you show us one?" Our host replied, "Many." We looked at each other. We walked a bit farther, and he stopped, pointed, and said: "There is a dandy 'raven' right there." We crowded for a better view. With binoculars swinging, we said, "Where, where?" Our man replied, "Right in front of you, the whole thing here." Then it dawned on us, and the let-down feeling was deep. This fellow pronounced ravine as "raven." With one look Doctor and I took off in another direction while our kind McGregor guide was still emoting about the nice "ravens."

While on the Iowa State Park trip with Dr. Stephens I once again saw one of the many facets of his character. I like to recall it as sensible caution. It was late afternoon and we had driven into the camping area at North Twin Lake, in Calhoun County. We were starting to unpack the umbrella tent for the night stop, when Doctor noted the threatening sky and rising wind. He told me he did not like the looks of things and perhaps we should hurry to Fort Dodge. We threw the camping equipment into the car with all haste and headed east.

When we were free of the trees and could see the sky clearly, there we saw the tornado funnel of the western prairies. We increased our speed. I don't think T. C. Stephens had ever driven that fast before, as we hurried to safety. The funnel was north of us and seemed to be moving west, but not very fast. Rain then started to fall so hard we lost sight of the tornado, but by now we were almost in Fort Dodge, and we stopped at the first good hotel we saw. That evening we learned the tornado had struck North Twin Lake. Many cottages were destroyed and several people lost their lives. We were safe because a man had used sensible caution.

On this Iowa Park trip we stayed in several other parks and finally arrived at Pammel State Park near Winterset, in Madison County. At this time this park was very primitive. After fording the Middle River, we set up camp in a thick stand of large trees. We did not get much sleep that night, although we had a nice snug camp. Barred and Horned Owls kept up an unearthly din of hoots, screams and cat-calls. We got up several times to flash our flashlights up into the trees to frighten them away but to no avail. In the morning a tired Dr. Stephens decided to explore the park for snails, as he had heard there were some rare ones to be found here.

It should probably be stated here that few people seemed to know T. C. Stephens as one of the best authorities on land snails in the upper Missouri valley. He had a large library and a very fine collection of shells, which covered most of the species in the United States.

We crossed the Middle River and walked through the tunnel under the Devil's Backbone. Some aspiring pioneer had dug the tunnel to divert the river for waterpower, but apparently it was never used. We continued along the side hill, looking for snails and watching birds. We found snail shells to be abundant. After examining each one, Dr. Stephens would tell me the scientific name, which didn't mean much to me. As I worked slowly along the hill, I found a little area where the shells were definitely different, and as I think back now, they had a rosy or brownish cast.

I picked up several and hailed my friend in the distance. He hurried up and took a good look at the snails I dropped into his hand. With a glow of excitement on his face, he said: "Youngworth, you have really found a good one!" He explained that as far as he knew, this would be the second time this species had been found in Iowa. Methodical as he always was, when we reached the car, he dug out a small vial, a bit of cotton and a mailing tube. The snails were mailed from Winterset to Dr. B. Shimek, the authority on Iowa snails. When we returned to Sioux City several weeks later, in Dr. Stephens's mail was a letter from Dr. Shimek stating it was the second time that species of snail had been found in Iowa and congratulating Stephens on his find.

Although Dr. Stephens worked in the field of zoology most of his life, he was a graduate in medicine and practiced one summer in a small town in Nebraska, where the resident doctor had taken a three-months leave. Stephens told me how many babies he had delivered that summer. He often spoke as if he would like to go back there some day to look up those folks whom he



MIDDLE RIVER, MADISON COUNTY, 1926
(Where the rare snails were found)

brought into the world and see what they were doing in life. He never did go back, however. Although he never practiced medicine again, it stood him in good stead in another incident which I shall relate below.

On the Morningside College ornithology tour in 1927, the party was routed through Casper, Wyoming, on the return from Yellowstone Park. Then we swung north to look at the oil fields, then on to Devil's Tower. On leaving Edgerton one fine morning, we had hardly gotten on the road when a car passed our caravan at considerable speed. A moment later, at a short distance beyond we saw a cloud of dust. When we reached the spot, we saw the car on its top and a man running around yelling for help. It was an open touring car, the make has been forgotten. It had turned over in the loose gravel and now rested on its top. One man was thrown out and another was pinned by the arm under a broken windshield. He was screaming with pain.

There were four men in our party and one teen-age boy, Stubert Stephens. The car was heavy, but the five of us lifted it and were able to drag the injured man out. A glance showed the arm merely hung to the body by shreds. Dr. Stephens quickly stepped into the breach with his medical knowledge. He stopped the flow of blood and hurried the man back to town and hospital. I know that Dr. Stephens never heard from that man, although he probably saved his life.

The final episode in this series is one that would ordinarily be thought of with sorrow. It was the reverse for me, for I shall always recall it as a pleasant memory. We had traveled to the Fort Sisseton lakes country of South Dakota to meet with our friends, Arthur Lundquist, pathologist from Webster, and Wesley F. Kubichek of the United States Fish and Wildlife Service. They had saved a surprise for Dr. Stephens. They had found a



DR. STEPHENS TAKING PICTURES AT
PRAIRIE CHICKEN NEST

Prairie Chicken's nest in the long grass on the east shore of Bitter Lake, and apparently the eggs were to hatch the next morning for Dr. Stephens's benefit.

After an early breakfast we hurried to the nest site and were greeted by the excited clucking of the mother bird. She used broken-wing tactics to distract our attention. All the chicks had left the nest except one. At this time I saw the most enraptured look come over the face of T. C. Stephens that I had ever seen in all my years of association with him. The chick was caught by one foot in a loop of grass and was trying to escape in vain. All the while the mother was making desperate efforts to lure us away and still keep her little brood somewhat intact.

Dr. Stephens, camera in hand, made exposure after exposure of the nest, its pile of broken egg shells, and its lone, entrapped occupant. When he had finally satisfied himself, he gently untangled the cheeping baby and shooed it off toward its mother. He straightened up with a look of complete satisfaction that is known only to the student of nature who has just seen something in Nature's scheme that is tremendously important in the pattern of life.

This was to be his last Prairie Chicken nest for, although he lived nearly 20 years more, he never again got into the field in intensive field work such as he and I enjoyed that June among the lakes and marshes of the Fort Sisseton country with our friends, Lundquist and Kubichek.

ESTIMATION OF AUGUST QUAIL POPULATIONS IN IOWA

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In 1938, Bennett and Hendrickson (1938) proposed a technique for censusing the Eastern Bobwhite, *Colinus v. virginianus*, in early fall, which was adopted by the Iowa State Conservation Commission. Briefly, the technique consisted of censusing a number of quail covey ranges in late August or early September with bird dogs. The time of day selected was from 6:00 to 8:00 a.m., when cool temperatures and dew facilitated the use of bird dogs. Observations were recorded within a covey range on the number of birds flushed and/or signs observed, such as tracks, dusting and roosting sites, and droppings.

By 1939, the census technique was adopted for 35 counties with the instructions that three covey ranges be censused by the conservation officer and, if possible, an interested sportsman in the northern part of a county, three in the central part, and three in the southern part. The officer was given a two-week period in which to conduct the survey as he usually was responsible for two and sometimes three counties. This procedure has been followed since 1939 with a varying number of counties and with some deviation from the original plan. Many officers were unable to check nine coverts in each county, especially during World War II with its gasoline restrictions, and curtailed their censusing efforts to one or two of the three geographical areas. Another limitation on the utility of the data was the lack of agreement among officers as to what constituted a quail range. Generally, a quail range was depicted as an area of varying acreage in which one would expect to find quail during the fall of the year. Some officers checked one acre of quail habitat, whereas others checked 50 or 60 acres with little annual consistency. No restrictions were placed on the officers as to the specific quail ranges to be selected for censusing in any given year, nor was any plan developed for rotating the sample of covey ranges on an annual basis.

In analyzing the annual data from 1939 through 1953 for 32 counties, the most reliable criterion was considered to be the percentage of observed covey ranges wherein the presence of quail was indicated by flushing the birds or by sign, such as roosting or dusting sites and/or droppings. Because the selection of covey ranges was based on judgment and their location varied from year to year, it was not possible to make any statistical evaluation of the data. A graphic presentation of these data, which were gathered in a subjective manner, indicates a decrease from about 90 to 50 per cent occupancy with a gradual decline in the percentage of occupied covey range over the 15-year period. Biologists and sportsmen agree that the peak year was 1939 and that the quail population has declined, but there is no general agreement on the extent of the decline. The number of covey ranges that have been checked each fall has decreased from 257 to 153 in belief that the smaller number sufficed. The summer whistle count (Bennitt, 1951) has supplemented the covey counts in late years.

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Acknowledgment is made for assistance to Dr. R. J. Jessen, Statistical Laboratory, Iowa State College.

This paper was presented by the author at the 35th annual meeting of the Iowa Ornithologists' Union, at Estherville, Iowa, May 18, 1957.

The relationship between the fall occupancy of covey ranges and hunting success was analyzed. Since 1946 field bag checks have been made by the conservation officers while on routine checks during the open season. The correlation analysis of the percentage of occupied quail range and hunting success (unit of time necessary to harvest a bird) was -0.538 , which was not statistically different from "0" (r , at probability level .05, with 6 d.f. $= \pm .707$). Therefore, the present sampling method of occupied quail ranges provides little information on hunting success. In addition, since both the percentage occupancy of fall quail ranges and hunting success data are presently estimated by subjective measurements, questions may well be raised on the accuracy and usefulness of the results.

AREA SAMPLING

In compliance with the biological balance law in Iowa, the task is to learn the status of quail population in the state and to estimate autumn population shifts from year to year within some specified limits of precision. Recent advancements and application of sampling procedures (for example, Cochran, 1953) suggest that it is possible to improve the estimates of the fall quail population. Also, the potentialities of using aerial photographs to classify units of land into various class types has been demonstrated (Leedy, 1948). In Iowa, aerial photographs of each county on the scale of 8 inches to a mile are available through the county office of the Agricultural Stabilization and Conservation Committee (A.S.C.). These photos greatly facilitate examination and classification of large areas of potential quail range with a modest expenditure of money and time. Therefore, the land within a county can be quickly classified into classes of "good," "fair," and "poor" quail covey ranges between mid-August and March. By sampling ranges within these classes, we can expect an increased precision in our population estimates over that obtained if samples are drawn without this information (Kozicky, *et al.*, 1956).

The concept of a "covey range" is such that there may be lack of agreement among individuals as to whether a particular area constitutes a covey range or not. It is especially difficult to determine the boundaries of a covey range. These obstacles are avoided by sampling a definite area of land, such as 1/16 of a Public Land Survey section (approximately 40 acres). In Iowa these forties represent a basic land and are usually of sufficient size to hold a covey of quail, providing certain habitat requirements are satisfied. The boundaries of these forties are easily seen as fencerows, roads, or some convenient multiple of a larger field. Then, by interpreting habitat types by aerial photo inspection, one can classify the forties into A — good quail range, B — fair quail range, and C — poor quail range. Because habitat requirements of quail change from August to March, the appropriate classification depends to some extent on the time of the year that the annual census is to be taken. With the establishment of a universe of A, B, or C forties with respect to a given time of the year, a sample of such forties is selected from the entire quail range and the number of these forties that are occupied by quail at the time of the survey is determined.

The establishment of the universe of A, B, and C forties can be done at each county office for the A.S.C. during the winter months by the conservation officer assigned to the county. Experience during the summer of 1955 indicated that after a little preliminary orientation with aerial photos, particularly the study of a photo of an area familiar to the observer, about two minutes were necessary to classify the 16 forties of an average section of land. The orientation period helped in recognizing cover components valuable to quail, such as row crops, vegetated waterways, woody cover, and wooded pastures, on aerial photos and hence in the classification of the forties in accordance to the set of criteria adopted.

Although the officers are given a common set of instructions in aerial photo interpretation, some differences in classification among the 30 or more men involved for 60 counties are expected, but these differences cause little effect on the sampling error, which is calculable, and none on bias. After the officer completes the identification and classification of each forty in his county, the information is forwarded to the State quail biologist. The biologist assigns, according to the sampling scheme employed, the specific number and the location of A, B, and C forties to be censused to each conservation officer in each county.

Inasmuch as it is always difficult to establish the exact number of birds on a given land unit, we confined ourselves to the problem of determining only whether a given forty was or was not occupied by quail.

When the officer seeks permission to examine a sample forty, the farmer is interviewed to determine whether or not he has observed any quail on the forty. If he has, the approximate number and date is recorded. It is not satisfactory to consider the replies of the farmers alone, for they vary considerably in their interest in quail and somewhat in ability to identify quail. While checking the forty with a bird dog, quail signs, such as dusting areas, droppings, roosting sites, tracks, and whistling, are noted. All these observations are kept separate on a tally sheet for each sample forty. The boundaries and all cover edges within the forty acres are walked.

Weather conditions, especially wind, temperature, and precipitation, are recorded for each forty in addition to the time of day that the check is made. Rain tends to eliminate quail signs, and at present it is not deemed advisable to check forties until two days after a rain of 0.1 inch or more. In early fall time of day is important, because bird dogs lose efficiency rapidly after 8:00 a.m. and can seldom be used again prior to 5:30 p.m. Standard Time.

The data sheets for all the forties assigned to a given officer are then forwarded to the state quail biologist, who compiles the data for the entire range and computes the estimate of the population or the change in population from the previous year as well as the confidence limits for these estimates.

An important by-product of this annual analysis of population shifts is that since new aerial photographs are made usually about every 10 years for the various counties in Iowa, a re-evaluation of the A, B, and C forties can be used as a basis for estimating the rate of improvement or deterioration of the entire quail range. Such information would be valuable in determining the success of game habitat improvement and educational programs or in reflecting the influence of modern farm cultural practices.

AUGUST COUNTS

In order to provide information on the abundance of quail during the late summer, it was proposed that the area sampling technique be tried the latter part of August. Previous to this experiment all tests were conducted on October counts. The August counts serve to provide the Conservation Commission with additional population data before setting the annual quail season.

On July 12, 1956, an experimental class was held on censusing quail by area sampling at Lake Wapello, Iowa. Conservation officers and Quail Biologist Eldon Stempel were in attendance. The area selected for the experimental study consisted of Appanoose, Davis, Decatur, Wapello, Wayne, Ringgold, Van Buren, Henry, Taylor, Lucas, Clarke, Monroe, Jefferson, and Union counties—Iowa's primary quail range.

Prior to the class county maps were secured, and all sections that contained a major river, incorporated town, forest preserve, or state park were eliminated. The record of the sections retained in each county are in the

Iowa Cooperative Wildlife Research Unit files at Iowa State College. Twelve of these sections were selected on a random basis from each county. The officers were given a sheet (Table 1) for each county with the designated section number and township and were requested to classify the 16 forties in each section into an A, B, or C category. This was accomplished by inspection of aerial photos, which were available in each county at the office of the Agricultural Conservation and Stabilization Committee. After the 192 forties in the 12 sections were classified into an A, B, or C forty by the Conservation Officer, two A's, two B's, and two C's were picked by systematic sampling at Iowa State College. The Conservation Officer was then instructed as to the two A's, two B's, and two C's that he was to examine in his county.

Table 1. Outline Sheet Used to Classify Forties by Aerial Photos

FORTY CLASSIFICATION			
		Date	
County	Township	Classifier	Section
Forty No.	A	B	C
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

An "A" forty was considered to be a forty with evidence of row crop and escape cover (3 to 5 acres of woody vegetation) within 100 feet. A forty was classified in the "B" category if row crop and escape cover were separated by more than 100 feet. Also, all forties containing a combination of escape cover and pasture but no evidence of row cropping were in the "B" category. All other forties were classified in the "C" category.

A working rate of two forties a day was established in order to allow sufficient time for each observer to cover the assigned forties and to check with the farm operator. As a rule, one forty was checked in the morning and the other in the afternoon. The six forties were to be checked between August 15-31, 1956.

In order to facilitate the recording of observations, a form sheet was developed (Table 2). With the experimental background of 1954 and 1955, it was found that bird dogs were of little value in locating quail in the latter part of August. The high air temperature and usual dryness were not conducive to efficient bird dog work. However, quail signs were quite evident and were found in all forties in which quail were flushed. So emphasis was placed on checking forties for signs of occupancy by quail and secondary importance was placed on the use of bird dogs. In order to keep results comparable from year to year, no forty was checked sooner than 48 hours

after a trace or more of rain. Rainfall quickly obliterates quail sign, such as tracks, droppings, dusting sites, etc.

The conservation officer was instructed to contact the farmer operator on each forty to complete section A of Table 2. In addition he walked the boundary of each forty if there was a break in cover type and all cover type edges within each forty. On forties composed of only one cover type he traversed four to six parallel strips across the forty on foot.

The observer was asked to classify each forty after field inspection. There was a general tendency to overrate the class of a forty at the time of aerial photo inspection.

In this analysis we considered only an overall estimate of forty occupancy. A forty was considered to be occupied by quail if there was any indication of occupancy through observing the birds or any of the various types of signs. All forties were checked by field inspection.

As an estimate of the percentage of occupied forties in the 14 counties, 48 of the 84 were occupied, 57.1 per cent (Table 3). However, this did not allow for difference in the number of sections in each county or in the estimated proportion of A, B, or C forties and was slightly biased. The unbiased estimate of occupied forties was 0.542. This implied that more than half of the forties in the 14 counties sampled—Iowa's best quail range—contained some evidence of being occupied by quail in August 1956.

The unbiased estimate of variance for double sampling with clusters needs to be derived. However, we used the bias estimate of variance, ignoring differences in number of sections per county and in the proportion of A, B, and C forties. We found the standard error to be 0.0564. Therefore, the 95 per cent confidence limits on the proportion of forties having evidence of being occupied by quail was estimated as being between 0.43 and 0.66. The true percentage of occupied forties lies between 43 and 66 per cent of the

Table 2. Experimental Quail Inventory Sheet, 1956

QUAIL INVENTORY	
County	Date
Township	Forty
Section	Forty Classification
Rain previous 48 hours: Yes..... No.....	
Weather: Temp..... Dew: Yes..... No.....	
A. Farm Operator	
1. Name of farm operator	
2. Quail observed on the forty within past 30 days: Yes..... No.....	
3. If yes, number of adults.....young.....undetermined.....	
B. Observer's report	
1. Observer's name	
2. Time of day at start of check	
3. Quail observed: Yes..... No.....	
4. If yes, number of adults.....young.....undetermined.....	
5. Dusting sites: Yes..... No.....	
6. Roosting sites: Yes..... No.....	
7. Quail tracks: Yes..... No.....	
8. Whistling quail: Yes..... No.....	
9. Quail droppings: Yes..... No.....	
10. Time of day at end of check	
C. Forty Classification after inspection	
D. Remarks:	

Table 3. Results of Quail Inventory on 84 Forties in 14 Counties, 1956

	16N _i	N _i	192P _A	192P _B	192P _C	2(F ₀) _A	2(P ₀) _B	2(P ₀) _C	384Sp:(P ₀)	\hat{P}_i (10)	$(\hat{N}_i)_i$ $N_i P_i$	
County (Sections)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1-Appanoose	415	6,640	93	46	53	1	1	0	139	.362	2,404	
2-Davis	451	7,216	91	45	56	1	1	1	192	.500	3,608	
3-Decatur	482	7,712	62	21	109	2	1	0	165	.378	2,915	
4-Wapello	345	5,520	58	29	105	2	2	2	384	1.00	5,520	
5-Wayne	481	7,696	80	43	69	0	2	1	155	.404	3,109	
6-Ringgold	486	7,776	64	26	100	2	2	2	384	1.000	7,776	
7-Van Buren	376	6,016	101	35	56	2	0	1	258	.672	4,043	
8-Henry	338	5,408	26	28	138	1	2	0	82	.214	1,157	
9-Taylor	436	7,776	37	7	148	1	1	0	44	.115	894	
10-Lucas	394	6,304	76	34	82	2	0	0	152	.396	2,496	
11-Clarke	393	6,288	74	30	88	1	2	1	222	.578	3,634	
12-Monroe	394	6,304	108	47	37	1	1	0	155	.404	2,547	
13-Jefferson	366	5,856	76	23	93	2	1	1	268	.698	4,087	
14-Union	402	6,432	42	16	134	2	1	2	368	.958	6,162	
TOTAL	5,809	92,944	938	432	1,268	20	17	11			50,352	

$$\hat{P} \text{ biased} = \frac{48}{84} = .571$$

$$\hat{P} \text{ unbiased} = \frac{50,352}{92,944} = 0.542$$

$$s^2 = \frac{20}{n} = \frac{(542) - (.542)}{84} = \frac{248216}{73} = 0.0031225$$

$$s = .0504$$

$$95\% \text{ C. L.} = 0.429 \text{ ----- } 0.655$$

Table 4. Occupancy of Forties by Quail Between 1955 and 1956 by Likelihood Class and County.

County	Likelihood Class	1955	1956
Wayne	A*	0
	B	0*
	C	0	0
Appanoose	A*	0
	B*	0
	C*	0
Decatur	A**
	B	0	0
	C	0	0
Wapello	A	0*
	B	0*
	C	0*
Davis	A	0	0
	B	0*
	C**
TOTAL		6	7

*Forty occupied by quail.

total number, 92,944 forties, within the 14 counties unless a one-in-twenty chance of error has occurred—a high quail population.

Little efficiency was gained in separating the A and B type forties for August counts. Originally, these three classes were devised for October counts and were efficient for the Decatur County quail area during late October. However, in 1957 it might be advisable to drop the distinction between A and B forties for August counts.

A separate estimate of the five counties, Appanoose, Davis, Decatur, Wapello, and Wayne, was made for comparison with 1955 data on these counties. In the selection of A's, B's, and C's to be checked in these counties, one A, one B, and one C was retained from the 1955 sample and one A, one B, and one C for each county was drawn from the 1956 sample of 12 sections. There was very little correlation between occupancy in 1955 and 1956 (Table 4); a biological explanation for this lack of correlation is wanting. However, the total number of occupied forties in the sample was very similar, 40 per cent in 1955 and 47 per cent in 1956.

By using a regression technique (Kozicky, *op. cit.*) for estimating the total number of occupied forties in the sample of 30 that were checked in 1955 based on these five counties, we derived an estimate of 48 per cent in 1955 and 49 per cent in 1956—remarkably close (Table 4).

SUMMARY

1. The fall quail census data are analyzed from 1939 through 1953 for 32 counties.
2. The possibility of using a probability (random) sample of forties (land units of about 40 acres) was investigated as a means of estimating August quail population changes within specified limits of precision.
3. Aerial photos were used to increase the efficiency of random sampling by permitting the rapid classification of our quail range universe into three types of forties, which are based on likelihood of quail occupancy in August.
4. In August, 1956, a pilot survey was made of 14 Iowa counties, constituting the primary quail range, by conservation officers.
5. The unbiased estimate of occupied forties in the 14 counties was 0.542, or 54.2%—a surprising abundance of quail.
6. The standard error of the estimate of occupied forties was 0.0564 and the 95% confidence limits of forties occupied by quail was estimated to be between 0.43 and 0.66 or between 43 and 66 per cent.
7. Little efficiency was gained in separating the A and B type forties for August counts.
8. The regression technique for renewing the annual sample holds promise and should be studied further.
9. Iowa conservation officers were quick to grasp the technique and conducted their field operations without any noticeable difficulty.

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GENERAL NOTES

A Canoe Trip in Webster County.—On April 20, 1957, Donald Johnson, Heber Johnson and I took a canoe trip down the Des Moines River from Lehigh to the bridge below the mouth of the Boone River. The entire length of the Des Moines River in Webster Township, Webster County was covered. Frequent stops were made to look for birds, and 45 species were recorded, including the following early records and distributional records: Green Heron, 2; Ruddy Duck, 3; Turkey Vulture, 3; Red-shouldered Hawk, 1; Spotted Sandpiper, 3; Solitary Sandpiper, 1; Tree Swallow, 4; Water-thrush (species?), 1; Red-eyed Towhee, 1. Tufted Titmice were heard calling constantly and were noticeably more numerous than they were along the Boone River in Hamilton County.—DENNIS L. CARTER, Iowa State College, Ames, Iowa.

Nesting of Yellow-crowned Night Heron in Des Moines in 1957.—An adult Yellow-crowned Night Heron was found on May 26, 1957, near the east nest at the scene of the nesting of this species in Crocker Woods in 1956. There were shell fragments under the nest. On June 16 a bird could be seen on this nest with another near by. Pieces of shell were found under the west nest but no bird was seen on or near the nest. By June 23 the leaves were so thick the west nest was almost entirely hidden, and the only bird seen was on the east nest. July 4 was very windy, and as the branches were blown to and fro an adult could be seen on the west nest. There was an adult on the east nest also. On July 6 and again on July 10 an adult was seen on the east nest, but the west nest could not be seen. On July 21 both nests were seen to be empty and no herons could be found in the area. Although some eggs were laid there is no evidence that any young survived for any length of time.

The nests were reported last year (Iowa Bird Life, XXVI, pp. 57-59) as being in a red maple. There are a red maple and a cottonwood growing side by side with the upper branches interlaced, but the nests are on limbs of the cottonwood tree.—WOODWARD H. BROWN, 4815 Ingersoll Ave., Des Moines, Iowa.

Hunting Season Notes from Northwest Iowa.—With the Ring-necked Pheasant population spread very thin over the extreme northwest part of Iowa, my numerous pheasant hunting trips during 1956 became good field trips, except that other birds seemed to be scarce as well. Often these 5- and 6-mile hikes that I made in areas as far from Sioux City as Sibley or Inwood and all points between, were almost as void of song birds as of pheasants. The scarcity of pheasants probably cannot be blamed to any one thing. Drought years here have led to tight farming. There is apparently a low cycle in our pheasant population. With fields plowed so close to fences that furrows are almost beneath the wheels and with many roadside ditches enclosed with electric fences, there is little cover left to harbor the pheasants. Unsuccessful pheasant hunters have been known to shoot hawks and owls for want of a better target. I thought of this during the past fall when, with over 1,000 miles of driving and many miles of walking during the entire hunting season, I saw only two Red-tailed Hawks, seven Rough-legs, one Marsh Hawk, one Sparrow Hawk and one sleek Prairie Falcon. The falcon was seen near Seney, Plymouth County. It was being scolded by a flock of Starlings.

The presence of Meadowlarks enlivened many days. On November 27, in O'Brien County, I found one flock of about 25 birds; with other flocks of three and four and the singles, I totaled 39 for the day. Lapland Longspurs usually brightened my days and I found a few on most trips. Near Cleghorn, Cherokee County, on November 27, I ran into flocks of from a few hundred up to 2,000 or 3,000 on several occasions.—WILLIAM YOUNG WORTH, Sioux City, Iowa.

Pileated Woodpecker at Waterloo.—A highlight of the new bird year was the discovery of a Pileated Woodpecker on Black Hawk Creek on March 3, 1957. Walking along the creek, I saw a large, dark form fly up into the tall trees. Soon I heard a loud call which I wasn't sure of and I walked across the frozen stream. I found the Pileated and got my glasses on it. Soon it flew westward and I followed in that direction. At a distance of about two blocks I found it again as it worked on a dead tree. This time I was able to study it at my leisure, and I watched it closely as it struck the tree with powerful blows. Once it was disturbed by a climbing squirrel and it flew to another tree. Finally the big woodpecker flew off and I resumed my walk.—RUSSELL M. HAYS, 825 Franklin St., Waterloo, Iowa.

Notes on Unusual Behavior of Nighthawks in Des Moines.—June 30, 1957, was a bright, sunny day, and about 2 p.m. when Nighthawks would not be expected to be about, one was seen flying 8 or 10 feet above the lake in Greenwood Park in Des Moines. After circling the lake a time or two, it swooped to the surface, either to drink or to pick an insect off the water. It then rapidly gained altitude and was soon lost to view. A very few minutes later the performance was repeated by a different individual. The exhibition was identical with the actions of Purple Martins. Bent's Life Histories mentions two observations, one in 1913 and one in 1923, of this behavior.

Two hours later my attention was drawn to a loose flock circling at a considerable height. These proved to be about 15 Nighthawks and eight or ten Chimney Swifts and Purple Martins. For about ten minutes the group flew in wide circles, but without tending to progress in any particular direction as is the case in Nighthawk migrations. Two of the Nighthawks then flew off to the west, and shortly thereafter the rest flew to the east, leaving the swifts and martins feeding as before. Had this happened about two months later, it would have been thought of as just a migratory movement, but some other explanation is needed for such a concentration at that season.—WOODWARD H. BROWN, 4815 Ingersoll Ave., Des Moines, Iowa.

Water Birds at Sweet Marsh.—I visited Sweet Marsh, the state-owned area near Tripoli, on March 31, 1957, and obtained a very satisfactory list of water birds. I followed my usual route along the west side of the north marsh. I counted eight Bluebirds but saw few birds until I reached the main lake, where I found many species—300 to 400 Mallards, two Great Blue Herons, one Black Duck, four American Mergansers, with close views of the last two species. There was a gathering of undisturbed ducks along the shore, including Gadwall, Baldpate, Ring-neck, Canvasback, and Pintail. As usual, the Mallards soon aroused the flocks and they took to the air. Working my way toward the dam, I found several Redheads and Scaups, as well as Coots, Pied-billed Grebes, and three colorful Buffleheads.

A lone Tree Swallow flew over, and I saw several hawks very high in the air. Among the hawks flying lower I identified the Red-tailed, Red-shouldered, Sparrow, and Broad-winged. A number of gulls were present and I got very close views of a Herring and a Ring-billed. Dr. C. W. Robertson had reported a Whistling Swan at Sweet Marsh on March 28, but I was disappointed in not finding it. In the woods near the dam I saw a flock of Rusty Blackbirds which included one brave bird with only one leg. I spent some time making sure of its infirmity.

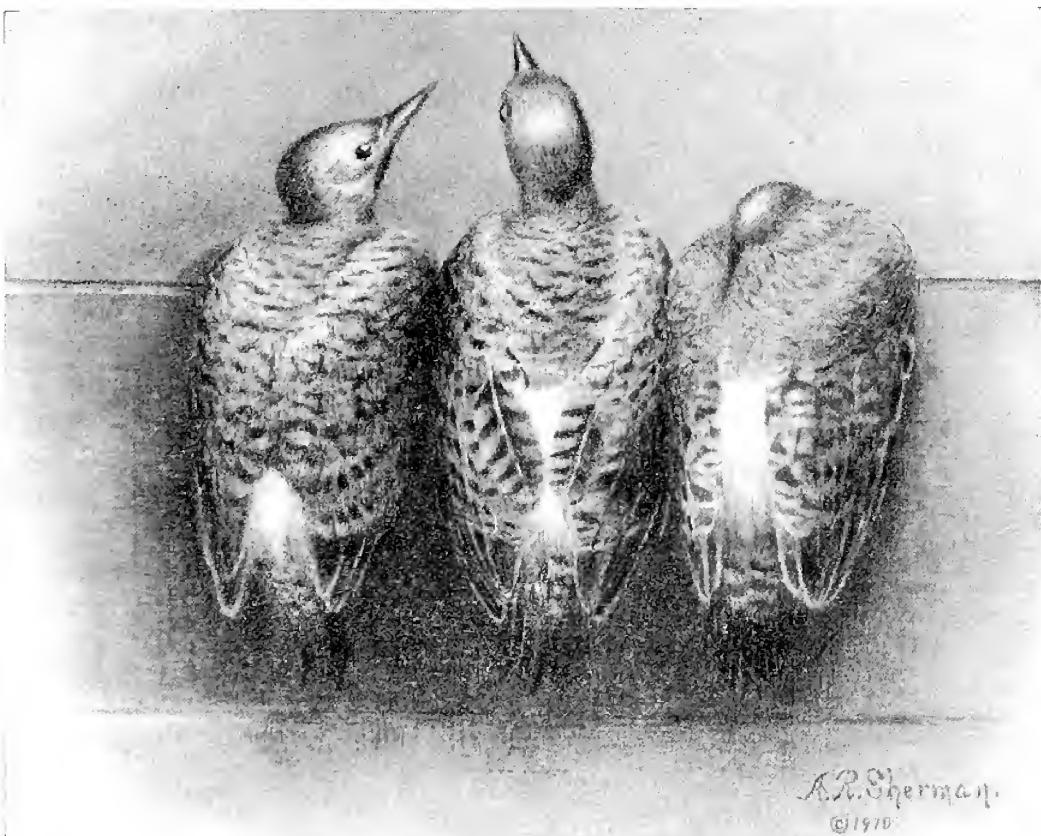
On April 21, 1957, I saw a Mallard with pink wings in a water area near Waterloo. This was no doubt one of the birds which biologists had marked for migration study purposes. I reported it to our local conservation officer, Bob Rollins, who said no one else had reported seeing it.—RUSSELL M. HAYS, 825 Franklin St., Waterloo, Iowa.

A Dipper Specimen at Macedonia, Iowa.—At the town hall, Macedonia, in southeastern Pottawattamie County, is a display of about 500 mounted birds containing a Dipper without data. Most of the birds were taken in Iowa, and mounted by Dr. Guido Louis Stempel, a practicing physician and naturalist of the town, between about 1884 and 1904. The writer saw the Dipper at his first visit in 1943 under guidance of Max O. Stempel, proprietor of Bird Harbor Nursery, Macedonia, and a son of the Doctor. At that time Mr. Stempel said the bird was shot in the spring of 1895 or 1896, following three days of strong winds, probably at Waubonsie Lake, which was in Sections 15, 21, and 22, T70N, R43W, northwestern Fremont County, Iowa, and about 30 miles southwest of Macedonia, by Laut Mason of Hastings, Iowa, about midway between Macedonia and the lake. The west part of the lake, long a well-known waterfowl hunting site, is now Forney Lake, State-owned and managed by the Iowa State Conservation Commission, one part as a refuge and the remainder as a public shooting ground.

Because Philip A. DuMont, after seeing the exhibit for the first time in 1934, had published on a Cinnamon Teal in the collection (Additional Specimens of Birds Substantiated by Specimens, *Wilson Bulletin* 47:205-208, 1935), the writer thought to correspond with him. In reply came a letter handwritten by M. A. Stempel under date of January 13, 1935. From the letter is this quotation: "There is no question about the water ouzel. Mr. Laut Mason of Hastings killed the bird and sent it to father. The bird was taken in spring after or during 3 or 4 days of strong N.W. winds. If I remember rightly sometime in April."—GEORGE O. HENDRICKSON, Department of Zoology and Entomology, Iowa State College, Ames, Iowa.

Yellow-breasted Chat and Prothonotary Warbler.—On June 6, 1957, while working on fish population studies for the Iowa State Conservation Commission on the Cedar River, Karl Glovik and I heard a series of loud, clear whistles and chattering calls that I at once recognized as the notes of the Yellow-breasted Chat. I had never heard or seen this species in Iowa, but had learned its notes in South Dakota a number of years before. There was a tree-covered island of several acres at this point on the Cedar River (about 2 miles north of Vinton, Benton County, Iowa), and the heavy undergrowth gave the chat just the seclusion it liked. Its characteristic calls came from the low bushes and trees on this island most of the time we were working in the vicinity, though occasionally it would be heard on the mainland near the river. It defied my best efforts to locate it for a while, but after some careful stalking during lunchtime I was able to get a very good look at the bird. We returned to this location the next day and again heard the bird. During the five days from June 17 through 21, we were again working in this vicinity, and the chat was on hand and calling lustily every day. It seems probable it was nesting there, but we did not have time to look for the nest.

During the week of June 10 through 14, Mr. Glovik and I were working on the Wapsipinicon River a mile west of Otterville, in Buchanan County. A short distance below the highway bridge we found a Prothonotary Warbler singing at a nest site. The nest was in a cavity in a birch tree, with the entrance hole in a slanting dead limb about 3 feet above the river at the normal water level. The male bird sang loudly each day near the nest while we admired his bright plumage and enjoyed his gay song. We did not get back to this place until June 24, but during the preceding week heavy rains had caused flooding on the Wapsipinicon. From our boat we examined the nesting stub and found the cavity partially filled with mud, the nest gone. The high water-mark of the flood was somewhat above the level of the nest. The Prothonotary was not present and had evidently left after the nesting failure. We did not see it again.—FRED J. PIERCE, Winthrop, Iowa.



CHARACTERISTIC POSTURES OF NESTLING FLICKERS
WHILE AWAITING A MEAL

(From a drawing by Althea R. Sherman, taken from the book, "Birds of an Iowa Dooryard")

Iowa bird students are quite familiar with the book, "Birds of an Iowa Dooryard," by Althea R. Sherman, published in 1952. This is a cloth-bound book of 270 pages and nine plates, devoted mostly to nesting studies of birds in northeast Iowa (published at \$3.75 a copy). Miss Sherman was particularly interested in the nesting of birds. She spent countless hours watching the activities of birds on or near her home acres in the village of National in Clayton County. Her observations were set down in day-to-day notebooks. Out of these came the important papers that were later published.

Recently the Pierce Book Company acquired the entire remainder of the book from the Boston publishers—108 copies. It has been decided to distribute these to readers of Iowa Bird Life as long as the small supply lasts. The price is \$1.50 a copy plus 8c mailing and 3c Iowa sales tax (sales tax not required from persons outside of Iowa). Orders should be sent to Pierce Book Company, Winthrop, Iowa, and should not be delayed since only 108 copies are available.

Western Grebes at Union Slough Refuge.—Two Western Grebes (a pair) in typical courting display were observed May 28, 1957, on Smith Pool, Union Slough National Wildlife Refuge, Burt, Iowa (northern Kossuth County). These grebes were again observed on the same pool and identified by Dennis Carter, Pete Petersen and Refuge Manager Burgess on May 30, 1957, but were not observed after that date.

A Common Loon was also observed flying over Union Slough Refuge by Burgess, Carter and Petersen on May 30, but the loon did not stop and apparently is quite rare in that area.

Plans are under way to publish a preliminary "Bird List of Union Slough Refuge" this coming winter. From December 27, 1956, to August 1, 1957, qualified ornithologists have identified 136 bird species using the refuge. About 20 more bird species could have been added to the list in the spring of 1957 if bird students skilled in identification of shore-birds, warblers and other perching birds had worked the area during spring migration. Such skills are even more urgently needed with the fall migrations. Qualified observers may obtain permits to "bird" inside the refuge or to accompany a conducted tour of the refuge (except during the waterfowl hunting season) by previously contacting the refuge manager.—HAROLD H. BURGESS, Refuge Manager, Union Slough Refuge, Burt, Iowa.

Dowitcher Recognition.—In the Field Check-List of Iowa Birds, published by the Iowa Ornithologists' Union, 1957, two species of Dowitchers are listed. The writer wishes to cite recent references that will aid in distinguishing the two. The first species, Dowitcher, is figured in color and discussed in some detail in the "Audubon Water Bird Guide" by Richard H. Pough, published by Doubleday and Company, Inc., Garden City, N. Y., 1951. Under the name of Short-billed Dowitcher measurements and range are given for the Dowitcher in the "Audubon Western Bird Guide" by Richard H. Pough, published by Doubleday and Company, Inc., 1957, and the reader is referred there to the colored figure of the bird in the Water Bird Guide, that is devoted chiefly to species of Eastern States. The second species, Long-billed Dowitcher, is figured in color and discussed in some detail in the Western Bird Guide with remarks on identifying both species through contrasts in coloration and habits.

The recognition of the two species of Dowitchers was established by the American Ornithologists' Union, largely through research by Frank A. Pitelka as told in "Geographic Variation and the Species Problem in the Shore-bird Genus *Limnodromus*," University of California Publications in Zoology, Vol. 50, No. 1, pp. 1-108, plates 1-10, 9 figures in text, published by the University of California Press, Berkeley, Calif., 1950.—GEORGE O. HENDRICKSON, Department of Zoology and Entomology, Iowa State College, Ames, Iowa.

Upland Plovers at Lamoni.—I notice frequent observations on Upland Plovers in Iowa Bird Life. During the summer of 1956 I believe I either saw or heard Upland Plovers on my own farm or adjoining farms every day from before May 1 until after September 1. The latest date seen was one bird on October 1, 2, and 3. The largest number seen was 12 together on July 30, after the second cutting of alfalfa. The young birds were maturing by this time and whole families began flocking together. After nesting is over, the plovers are attracted to hayfields newly mowed and baled, where grasshoppers are abundant.

On June 4, I located an Upland Plover nest on the Lamoni airport adjoining my farm. The nest had two eggs. On June 6 the giant truck-drawn lawnmowers started mowing the airport. I hurried over and talked to the operators and they kindly agreed to mow around the nest and leave it undisturbed.

There were now three eggs in the nest. The men were amazed at their huge size.

The nest was in the center of the runway and near the end of the field so that each time a plane would take off or land it went directly over the nest and about 20 feet above. On June 29, the plover with its nest of three eggs was still there, despite the roaring of planes and machinery at times during 26 days. On several occasions during this period, when the bird was disturbed on its nest, it fluttered and limped across the field in its instinctive efforts to lure intruders away. On June 30, when I went to the nest, only the opened shells were left there. I presumed there was a successful hatch. This nest was located in a thin clump of orchard grass on blue-grass sod. Mrs. W. C. DeLong obtained a good color photograph of the nest and eggs.—J. DONALD GILLASPEY, Route 3, Lamoni, Iowa.

Large Flight of Lapland Longspurs at Lamoni.—On January 21, 1957, I saw the greatest flight of Lapland Longspurs I had ever witnessed, although these birds can generally be seen or heard in small flocks here during the winter months in open country. For the preceding 10 days we had had record cold temperatures and only very light snow. Then the weather suddenly warmed up with strong south winds the night of January 20, with temperature going to 58° the next day. This made it advisable to drive the cattle out of the thawing fields. While at this task I noticed the fields alive with longspurs.

Roving flocks could be seen in many directions, suddenly alighting or suddenly springing into the air. In some ways a flock of longspurs resembles a huge swarm of bees. Just imagine a swarm 500 feet long swirling and whirling low over the fields, then suddenly zooming 'way up into the air or just as suddenly alighting on the ground. Then imagine several such flocks. How many total birds? Simply thousands. How could anyone possibly count them?

Many of the longspurs were attracted to the water from small melting snowbanks at the edge of the airport. This water spread out thinly over a flat waterway and made an ideal bird bath. It was possible to walk up to within 20 feet of some of the birds splashing and preening in the water. I later regretted that I did not immediately postpone all farm work, hurry and get my binoculars and spend the entire forenoon observing the birds. There is always a chance of finding a few individuals of other northern species rare in this locality among the longspurs. For the very next day frigid winds returned, the fields were frozen dry, and not a longspur could be seen or heard. I did observe small flocks several different times after this occasion.—J. DONALD GILLASPEY, Route 3, Lamoni, Iowa.

RECENT BIRD BOOKS

AN ANNOTATED BIBLIOGRAPHY OF IOWA ORNITHOLOGY, by the late T. C. Stephens (Occasional Papers No. 4, Nebr. Ornith. Union, 1957; paper binding, 4to size, pp. i-v + 1-114; price, \$3.00).

Doctor Stephens spent nearly 40 years of his life in compiling a bibliography of Iowa ornithology. Although his was the busy life of a college professor, he managed to carry on a great many outside projects. His interest in ornithology was almost unabated during his entire life, while the side angle of bibliographic compilation attracted him especially. He had a large private library through which he worked methodically, and he used all other sources of material whenever he found them available. The result was a careful chronological index to every published note or article on Iowa birds, begin-

ning in 1898 (picking up where the Paul Bartsch Iowa bibliography stopped) and running down through 1947, a short time before his death.

The bibliography contains over 2,000 entries. With most of the citations there is a concise summation of the contents of the article or dated bird records. For this reason the bibliography presents much interesting reading—an unusual feature for such publications.

The manuscript was left in finished form. After the death of Dr. Stephens his friends tried to find a suitable medium for publication. A half dozen potential publishers were approached, but each turned down the project as being too big, too local in scope, too expensive, or too uncertain of bringing a necessary return on the investment. After the manuscript had literally gone from one end of the country to the other seeking a publisher, it remained for a Sioux City man to take it over and publish it.

William Youngworth underwrote the cost of publication and thus made sure that this important work, on which Dr. Stephens had labored so long and assiduously, would see the light. We are certainly indebted to him for bringing about this happy circumstance. A prefatory note states that "William Youngworth . . . made possible the publication of this paper as a memorial to his great friend and teacher, T. C. Stephens, in memory of many enjoyable hours spent together in the pursuit of ornithology."

Bibliographies are among the most useful tools of research workers. This one will be needed by all serious students of Iowa birds. It is published in a limited edition of 250 copies—which means that it should be purchased as soon as possible. Orders should be sent to Dr. William F. Rapp, Jr., 430 Ivy Ave., Crete, Nebraska.—F. J. P.

EDITOR'S NOTE

While many IOU members are enjoying the fall meeting today (September 22), the Editor feels it necessary to stay at home and work on this issue of Iowa Bird Life. One reason for his work piling up was a vacation trip of two and half weeks in the first half of September.

With Mrs. Pierce, and son Paul and family, a trip was made to the West Coast, 6,000 miles in all. The Black Hills region was visited first, then Salt Lake City and San Francisco with nearby Muir Woods. The usual tourist attractions were each visited in turn—Los Angeles, Disneyland, San Diego, Tijuana, Las Vegas, Hoover Dam, Grand Canyon on the South Rim, Petrified Forest, Painted Desert, Meteor Crater, and home by way of Oklahoma City and Tulsa.

A call was made at Seton Village, near Santa Fe. Here Mrs. Seton, widow of Ernest Thompson Seton, still lives in the big house planned and built by her husband and her. It has three stories, 47 rooms and houses Mr. Seton's personal library of 68,000 books on natural history subjects. Many of his original drawings hang on the walls, and there are mementos of various kinds, including his series of journals written in longhand and carried on his many field expeditions to study wildlife.

Although this was a hurried vacation trip, a vast amount of beautiful scenery was unfolded and many enjoyable experiences made it well worth while.—F. J. P.

THE CHRISTMAS BIRD CENSUS

will be taken as usual between December 20 and January 5. Please follow the form of previously published censuses as closely as possible, with birds given in A. O. U. order, and full data on numbers seen, hours, weather and ground conditions. Censuses of at least five hours or longer are preferred. Send your census to the Editor of Iowa Bird Life not later than January 20, 1958.